CLAIMS

1. A color image-forming medium comprising:

a substrate; and

a color-developing layer coated on said substrate,

wherein said color-developing layer is composed of at least one kind of heat-sensitive color-developing component, and a plurality of pressure-sensitive microcapsules uniformly distributed therein;

each of said pressure-sensitive microcapsules is filled with a dye exhibiting a first single-color, and features a pressure/temperature characteristic to be broken when being subjected to a predetermined pressure within a first temperature range; and

said heat-sensitive color-developing component features a thermal color-developing characteristic to develop a second single color within a second temperature range defined by a first critical temperature and a second temperature, said first critical temperature being in said first temperature range, said second critical temperature exceeding an upper limit temperature of said first temperature range.

2. A color image-forming medium as set forth in claim 1, wherein a temperature range between the first critical temperature of said second temperature range and the upper limit temperature of said first temperature range is defined as a color developing

range in which both said first single color and said second single color are developed.

3. A color image-forming medium as set forth in claim 1, wherein a temperature range between the upper limit temperature of said first temperature range and the second critical temperature of said second temperature range is defined as a color developing range in which only said second single color is developed.

4. A color image-forming medium as set forth in claim 1, wherein an extent of said first temperature range is regulated by varying at least one parameter selected from the group consisting of a thickness of the color-developing layer, an amount of filler contained in the color-developing layer, an average diameter of the pressure-sensitive microcapsules, a material of the substrate, a shell wall strength of the pressure-sensitive microcapsules and a surface roughness of the substrate.

5. A color image-forming medium as set forth in claim 1, wherein a lower limit temperature of said first temperature range is set as a temperature of less than 100°C.

6. A color image-forming medium as set forth in claim 1, wherein said color developing layer is further composed of another kind of heat-sensitive color-developing component featuring a thermal color-developing characteristic to develop a third single color within a third temperature range more than said second critical temperature.

7. A color image-forming medium as set forth in claim 6,

wherein each of said heat-sensitive color-developing components comprises a leuco-pigment, and said color developing layer is composed of a color developer component for said leuco-pigment.

8. A color image-forming medium as set forth in claim 7, wherein said first temperature is defined as a critical color-developing temperature of the leuco-pigment exhibiting the thermal color developing characteristic defined by said second temperature range, and said second temperature is defined as a critical color-developing temperature of the leuco-pigment exhibiting the thermal color developing characteristic defined by said third temperature range.

9. A color image-forming medium as set forth in claim 7, wherein the leuco-pigment, exhibiting the thermal color developing characteristic defined by said third temperature range, comprises a black-developing leuco-pigment.

10. A color image-forming medium as set forth in claim 7, wherein the dye, encapsulated in said pressure-sensitive microcapsules, is based on a leuco-pigment, and said color developer component is thermally fused when being subjected to at least a lower limit temperature of said first temperature range.

11. A color image-forming medium as set forth in claim 1, wherein said color developing layer is formed as a double-layer structure including a pressure/heat-sensitive color-developing layer containing said pressure-sensitive microcapsules and a heat-sensitive color-developing layer composed of said heat-sensitive

color developing component.

12. A color image-forming medium as set forth in claim 11, wherein the dye, encapsulated in said pressure-sensitive microcapsules, is based on a leuco-pigment, and said pressure/heat-sensitive color-developing layer is composed of a color developer component for said leuco-pigment, said color developer component being thermally fused when being subjected to at least a lower limit temperature of said first temperature range.

13. A color image-forming medium as set forth in claim 11, wherein said pressure/heat-sensitive color developing layer is further composed of another kind of heat-sensitive color-developing component featuring a thermal color-developing characteristic to develop a third single color within a third temperature range more than said second critical temperature.

14. A color image-forming medium as set forth in claim 13, wherein each of said heat-sensitive color-developing components comprises a leuco-pigment, and each of said pressure/heat-sensitive color developing layer and said heat-sensitive color developing layer is composed of a color developer component for said leuco-pigment.

15. A color image-forming medium as set forth in claim 13, wherein said first temperature is defined as a critical color-developing temperature of the leuco-pigment contained in the heat-sensitive color-developing layer, and said second temperature is defined as a critical color-developing temperature of the leuco-

pigment contained in the pressure/heat-sensitive color-developing layer.

16. A color image-forming medium as set forth in claim 14, wherein the leuco-pigment contained said pressure/heat-sensitive color-developing layer comprises a black-developing leuco-pigment.

17. A color developing medium comprising:

a substrate; and

a pressure/heat-sensitive color-developing layer coated on said substrate,

wherein said pressure/heat-sensitive color-developing layer is formed as a binder layer containing a plurality of pressure-sensitive microcapsules uniformly distributed therein;

each of said pressure-sensitive microcapsules is filled with a dye exhibiting a given single-color, and features a pressure/temperature characteristic to be broken when being subjected to a predetermined pressure within a predetermined temperature range; and

an extent of said temperature range is regulated by varying at least one parameter selected from the group consisting of a thickness of the pressure/heat-sensitive color-developing layer, an amount of filler contained in the pressure/heat-sensitive color-developing layer, an average diameter of the pressure-sensitive microcapsules, a material of the substrate, a shell wall strength of the pressure-sensitive microcapsules and a surface

roughness of the substrate.

18. A color image-forming medium as set forth in claim 17, wherein the dye, encapsulated in said pressure-sensitive microcapsules, is based on a leuco-pigment, and said binder layer is formed as a color developer layer composed of a color developer component for said leuco-pigment, said color developer component being thermally fused when being subjected to at least a lower limit temperature of said temperature range.